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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/072,412

05/04/1998

STEPHEN R. SCHWARTZ

15381

6519

7590

04/25/2002

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SAN JOSE, CA 95110

EXAMINER

PENDLETON, BRIAN T

ART UNIT

PAPER NUMBER

2644

DATE MAILED: 04/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

54

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/072,412	SCHWARTZ, STEPHEN R.	
	Examiner	Art Unit	
	Brian T. Pendleton	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 April 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 6-12 and 16-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 13-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election with traverse of the restriction requirement in Paper No. 12 is acknowledged. The traversal is on the ground(s) that claims 1 and 6 (groups I and II respectively) only differ in that the latter group specifies a reference microphone to pick-up reference signals and that group III compares sounds of many different instrument, but only one instrument at a time. This is not found persuasive because the addition of a second (reference) microphone in group II requires a separate search and consideration than that of group I. In addition, group III necessitates the search for multiple instruments, not required for group I.

The requirement is still deemed proper and is therefore made FINAL.

***Response to Arguments***

Applicant's arguments with respect to claims 1-5 and 13-15 have been considered (on record in paper #15) but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams et al, US Patent 4,316,060. Adams et al disclose an equalizing system comprising an input audio signal at terminal 10, multi-band equalizer 20, a speaker system, microphone 38, filters blocks 28 and 40, and A/D converter 36. The system

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takes an input signal at terminal 10 and compensates for the non-linear loudspeaker and room acoustic effects and equalizes the sound heard by a listener with the original sound source. This system uses the microphone 38 to gather reproduced audio signals and compares the gathered audio signal with the original sound signal to produce a correction signal which is sent to the multi-band equalizer 20. The A/D converter 36 compares the gathered audio signal and the original input signal. Thus, the apparatus has a first microphone 38 placed at a location, a reference sound (input signal at terminal 30) a comparator 36 and a tailor-made equalizer 20 for compensating for the differences between the sounds picked up by the microphone 38 and the reference sounds. The invention of Adams et al is directed to any audio system which experiences differences between an original sound input and a reproduced sound. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Adams et al for a musical instrument. One of ordinary knowledge in the field knew that when musical instruments are played there existed a difference between the original sound (natural sound) of the instrument and the reproduced sound after being picked up by a microphone and played through loudspeakers with non-linear frequency characteristics. Hence, one would have been motivated to find a system that compensates for the difference to ensure a true sound. The original sound would be altered by the transfer function from the musical instrument to the microphone (room acoustics) and the non-linear characteristic of the loudspeakers (which also includes room acoustics). It would have been advantageous to use the Adams et al invention in the case of reproducing the sound of acoustic musical instruments. The invention

would be modified by introducing the multi-band equalizer 20 in the microphone path since acoustic instruments need microphone amplification. The system would have generated a sound more closer to the instrument's natural sound. Claims 1 and 13 are met. Per claims 2 and 14, for acoustic musical instruments being played in a large environment, there exists a need for amplification, which can be satisfied by attaching a microphone to the instrument for reproduction through a speaker. As to claims 3 and 4, it was well know to accomplish equalizing a signal though user listening. Per claim 15, the equalizer unit 20 is digital. Regarding claim 5, no two instruments produce the same sound and are produced exactly alike. Therefore, when using acoustic instruments there exists some acoustic variation from one instrument to another using the same type of instrument. One of ordinary skill in the art would have known to play an instrument several times in order to arrive at ranges for the equalization in certain bands without undue experimentation.

### ***Conclusion***

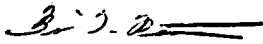
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (703) 305-9509. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



Brian Tyrone Pendleton  
April 10, 2002



FORESTER W. ISEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600